



1. Project Data

Project ID P126504	Project Name Enhancing Climate Resilience-West Cst Rd	
Country Samoa	Practice Area(Lead) Transport	
L/C/TF Number(s) TF-13579	Closing Date (Original) 31-Aug-2018	Total Project Cost (USD) 14,800,000.00
Bank Approval Date 18-Dec-2012	Closing Date (Actual) 31-Dec-2020	
	IBRD/IDA (USD)	Grants (USD)
Original Commitment	14,800,000.00	14,800,000.00
Revised Commitment	14,800,000.00	14,800,000.00
Actual	14,800,000.00	14,800,000.00

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2. Project Objectives and Components

a. Objectives

The Project Development Objectives (PDOs) as stated in the Grant Agreement (Schedule 1, page 6) and in the Project Appraisal Document (PAD, page 4) were to:

(i) improve the climate resilience of the West Coast Road; and (ii) enhance local capacity to develop a more climate resilient road network".



b. Were the project objectives/key associated outcome targets revised during implementation?

Yes

Did the Board approve the revised objectives/key associated outcome targets?

Yes

Date of Board Approval

06-Feb-2018

c. Will a split evaluation be undertaken?

Yes

d. Components

There were three components (PAD, pages 5 to 7).

1. Improving the Climate Resilience of the West Coast Road (WCR). The estimated cost at appraisal was US\$15.4 million; actual cost is not available. The ICR (page 36) noted that actual cost of components was pending when this ICR was being finalized. The project team was unable to provide the actual cost data. The team informed IEG that they had requested the Ministry of Finance (MOF) and the Land Transport Authority (LTA) to provide the actual cost of components several times. However, the information has not been provided to date.

This component aimed to improve the climate resilience of the WCR. Activities in this component were: (i) raising the most vulnerable sections of the WCR (about 26 kilometers (km)), sealing road shoulders, improving longitudinal and cross drainage and adding road safety features; and (ii) technical assistance (TA) for design and supervision.

The original target was reduced from 26 km to 23 km in December 2014, as the remaining 3 km were covered under an ongoing Bank-funded "Enhanced Road Access" Project. The target was reduced from 23 to 12.5 km through the project restructuring (discussed below). Further, the Government's decision in November 2019 to change the WCR surfacing from chip seal to asphalt, increased the design and supervision costs. This resulted in further reducing the target from 12.5 km to 10.64 km.

2. Vulnerability Assessment of the Samoa Road Network. The estimated cost at appraisal was US\$0.7 million; actual cost is not available. This component financed technical assistance (TA) activities for addressing climate change factors in the sector. Activities in this component included: (i) assessing the climate change vulnerability of the road network using the Pacific Climate Change and Catastrophe risk assessment; and (ii) preparing a climate resilience/adaptation strategy.

3. Project Management and Operating Costs. The estimated cost at appraisal was US\$0.8 million; actual cost is not available. This component planned to provide project management support in fiduciary management, monitoring and evaluation.

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates



Project cost. The actual project cost was US\$17.0 million, as planned.

Project financing. The project was financed by the Pilot Program for Climate Resilience (PPCR) grant of US\$14.8 million. This amount was disbursed.

Recipient contribution. The recipient contribution was estimated at US\$2.2 million. The team clarified that recipient contribution was as planned and counterpart funds were used to cover the cost of taxes on works, goods and services.

Dates. The project approved on December 18, 2012, became effective on April 26, 2013, and was scheduled to close on August 31, 2018. The project closed 28 months behind schedule on December 31, 2020.

Other changes. There were two Level 2 restructurings.

The main changes made through the **first project restructuring on February 7, 2018**, are as follows:

- The project scope was reduced, with the target for road works eventually reduced from 23 km to 10.64 km. The plan originally aimed at improving the climate resilience of 23 km of the WCR through interventions ranging from minor improvements to comprehensive rehabilitation, which differed over the length of the road. However, the Government decided that their needs would be best met through rehabilitating the entire WCR road (including through increasing the climate resilience design standard and raising minimum elevation of the road from 2 meters (m) to 2.24 m that accounted for potential sea level risk. Upgrading the project scope increased costs that were not feasible with the grant. Hence the original targets were scaled down from 23 km to 12.5 km. Further, the government's decision in November 2019 to change the WCR surfacing from chip seal to asphalt further increased design and supervision costs. This resulted in further reducing the length of roads to be rehabilitated from 12.5 km to 10.64 km.
- The results framework was revised given the reduced scope of the project.
- The closing date was extended by 22 months from August 31, 2018 to June 30, 2020, for completing the activities that were delayed due to factors such as, difficulties of undertaking cadastral survey of land boundaries, and decision to upgrade the climate resilience design standard.

Through the second restructuring on May 5, 2020, the closing date was extended by six months from June 30, 2020, to December 31, 2020, for completing the activities affected by the restrictions due to the COVID-19 pandemic.

Split rating. Although the PDOs were unchanged, the project scope reduced while funding remained the same. This review is based on a split rating of objectives, when 12% (US\$1.8 million) was disbursed before restructuring, and the balance 88% (US\$13 million) disbursed after restructuring.

3. Relevance of Objectives

Rationale



Country context. Samoa, a small remote Pacific Island State, is vulnerable to natural disasters and climate change factors. Extreme weather and climatic events had caused severe damage to infrastructure and other economic assets in the past. Tropical cyclones and associated heavy rains are moreover expected to be intense in future, as 80% of the Samoa coastline is rated as sensitive to erosion, flooding and landslips.

Sector context. The Samoan road network faces a range of vulnerability issues such as: (i) coastal exposure to sea level rise during cyclones; (ii) inland flooding and landslips during extreme rainfall events, and damages from earthquakes; and (iii) pavement deterioration due to rising water levels in some locations. The WCR, the primary artery on the main island of Upolu (one of the two large islands of Samoa), is a vital link connecting Samoa's capital city - Apia to the port and the airport, the Mulifana inter-island ferry wharf (the main gateway to Samoa's second island, Savai'i), and communities along the north-west coast. Given that over 50% of Samoa's population and its industries are located along the WCR corridor, maintaining the WCR to climate resilient standards was critical for Samoa's economic development.

Government strategy. Samoa was the first country in the pilot program for climate change to have endorsed the strategic program for climate resilience. The Government's *Strategy for Development of Samoa 2016 -2017 to 2019 -2020* identified key outcomes in four priority areas: economic, social, infrastructure, and the environment. The outcome 10 of the strategy articulated the need for "*Efficient, Safe and Sustainable Transport Systems and Networks*", and key outcome 14 highlighted the need for "*Climate and Disaster Resilience*". These goals were reiterated in the *Samoa Transport Sector Plan for 2014 - 2019*. The PDOs were relevant to the Samoa Land Transport Authority's (LTA) *Corporate Plan for 2017 - 2020*. The second goal of this plan highlighted the need for "*improving and sustaining the road transport network*".

Bank strategy. The PDOs were well-aligned with the Bank strategy. At appraisal, the *Country Partnership Framework (CPF)* for 2012 - 2016 identified *strengthening resilience against natural disaster and climate change*, as a priority. The PDOs were well-aligned with the Bank's *Regional Partnership Framework (RPF)* for 2017 - 2021 for nine Pacific Island Countries, including Samoa. The third focus area of the RPF specifically highlighted the need for strengthening preparedness and resilience to natural disasters and climate change, and the fourth focus area highlighted the need for increasing access to basic services and improving connective infrastructure.

Prior Bank experience. The Bank has a long history of engagement with the Government of Samoa. Phases 1 and 2 of the Samoa Infrastructure Asset Management Program (1999 to 2014) supported reforms in road maintenance and management. The Cyclone Emergency Recovery Project (2004-2008) supported recovery from Cyclone Heta and reducing coastal vulnerability, and the Post Tsunami Reconstruction Project (2010 - 2016) supported rehabilitation of communities on Upolu affected by the tsunami of September 29, 2009.

This project was envisioned as the first of two projects for Samoa under the Pilot Program for Climate Resilience. The framework of this project provided the foundation for the Pacific Climate Resilient Transport Program (PC RTP) Series of Projects (SOP). Given that the project addressed an important development challenge of enhancing the climate resiliency of the WCR and enhancing the local capacity to develop a climate resilient network, and the PDOs were relevant to both the Bank strategy for Samoa and for the region. The relevance of PDO is assessed as High.



Rating

High

4. Achievement of Objectives (Efficacy)

OBJECTIVE 1

Objective

To improve the climate resilience of the West Coast Road (WCR).

Rationale

Theory of change. The causal links between the project activities, outputs and outcomes were logical. The intended outcomes were monitorable. Rehabilitating the affected sections of the WCR, improving road pavement by raising vulnerable sections of the WCR, sealing shoulders, improving longitudinal and cross drainage, and road safety features, were intended to improve the climate resilience of the WCR. Measures such as raising road elevation, coastal protection revetment, and new vegetated coastal scour protection, were aimed at reinforcing the climate resilience of the WCR. Under the assumption that the design incorporates the recommendations of the vulnerability assessment, government's strong commitment, and that the local contractors have adequate capacity, the outputs of these activities were likely to lead to the intended outcome of improving the climate resilience of the WCR.

Outputs (ICR, pages 27-29).

- 10.64 km of the WCR were rehabilitated through a minimum elevation of 2.25 meters (m), well short of the original target of 26 km. The rehabilitated roads were in the eastern half of the WCR that were more vulnerable to severe weather events and climate change than the western half.
- The length of sealed shoulders on both sides of the WCR increased to 21.28 km, short of the original target of 25 km.
- 17 drainage outfall channels were upgraded as targeted.
- The coastal protection revetment was raised to 2,500 m to enhance coastal protection as per the revised target (The team clarified that the revetments sloping structures made of rock and constructed on backshores. They dissipate the energy of storm waves and prevent further recession of the backshore).
- 2,000 m of new vegetated coastal scour protection were planted by the communities as targeted, to protect soil against scour. (The team clarified that that these measures help enhance climate resilience of the road by reducing wave overtopping and coastal erosion, especially during storm surge).
- Road safety features were incorporated on WCR such as sealing its shoulders, bus stops, installing signages and providing thermoplastic line marking, rumble strips and additional safety furniture, such as guard rails.

Outcomes



The outputs mentioned above were expected to increase the number of km of the WCR that were rehabilitated with improved climate resilience measures. 10.64 km of the WCR were improved to climate resilience standards, *well short of the original target of 26 km*. The rehabilitation included additional climate resilience measures of raising the road elevation that accounted for potential sea level rise over the design of the road, coastal protection revetment, and vegetated scour protection. The 10.64 kilometers of the road were fully rehabilitated with 50 millimeters of asphalt concrete overlay, which also contributed to enhancing the climate resilience of WCR and improving the quality of the road.

The ICR (paragraph 27) notes that the project enabled the project road to largely withstand the Category 2 Tropical Cyclone Zazu on December 18, 2020. While flood damages occurred around Afega Bridge (the only bridge along WCR not rehabilitated under this project), no flood damages occurred on the rest of WCR rehabilitated under the project. The ICR notes that for the damaged section, the Land Transport Authority (LTA) inspected the damages and instructed the contractor of this project to replace the damaged surface and base course, and seal the section with a single chip seal surface. These emergency works were funded under this project.

As the outcomes with respect to the km of roads that were rehabilitated with climate resilient features were well short of the original target, efficacy of this objective was assessed as **modest** before the project restructuring.

Rating

Modest

OBJECTIVE 1 REVISION 1

Revised Objective

To improve the climate resilience of the West Coast Road (WCR).

Revised Rationale

Theory of Change (ToC). Although the PDO were unchanged, the targets were reduced rather significantly. The ToC is the same as under original objective.

Outputs (ICR, pages 29-30).

The outputs described above were relevant to this objective.

Outcomes.

- 10.64 km of the WCR were rehabilitated with 50 millimeters of asphalt concrete overlay and climate resilience measures (such as raised roads and improved drainage). This was slightly short of the revised target of 12.5 km. The rehabilitation included additional climate resilience measures of raising the road elevation that accounted for potential sea level rise over the design of the road coastal protection revetment and vegetated scour protection.
- The ICR (paragraph 27) notes that the project enabled the project road to largely withstand the Category 2 Tropical Cyclone Zazu on December 18, 2020. While flood damages occurred around Afega Bridge (the only bridge along WCR not rehabilitated under this project), no flood damages



occurred on the rest of WCR rehabilitated under the project. The ICR notes that for the damaged section, the Land Transport Authority (LTA) inspected the damages and instructed the contractor of this project to replace the damaged surface and base course, and seal the section with a single chip seal surface. These emergency works were funded under this project.

Given that the revised targets with respect to rehabilitation of WCR road with climate resilience features were largely met, efficacy of this PDO is assessed as substantial after project restructuring.

Revised Rating

Substantial

OBJECTIVE 2

Objective

To enhance local capacity to develop a more climate resilient road network.

Rationale

Theory of change. The causal links between project activities, outputs and outcomes were logical. Activities aimed at developing a vulnerability assessment of the Samoan road network and preparing a climate resilience and adaptation strategy were aimed at enhancing the local capacity to develop a more climate resilient road network. Under the assumption that there is relevant data to complete the vulnerability assessment, and that the Government is committed to adopting climate resilient policies, codes and standards, the outputs of these activities would aid in ensuring that the road network is more resilient to climate change factors and natural disasters.

Outputs

- Technical Assistance (TA) was provided for assessing the climate change vulnerability of the main road network on the two principal islands of Upolu and Savai'i, and for preparing a climate resilience/adaptation strategy for the road network identifying key hazard types and risk levels (such as sea-level rise, tropical cyclones, extreme rainfall and temperature events) and assessing the likely severity and timing of risk impacts for all major links of the road network. This analysis used the latest results from the Pacific-Australia Climate Change Science and Adaptation Planning Program, and the Pacific Catastrophe Risk Assessment and Financing Initiative.
- A strategic planning tool was developed for informing the resilient design of infrastructure investments.
- The ICR (page 18) notes that the vulnerability assessment framework developed under this project was adopted by the World Bank's Transport Global Practice (GP), and subsequently incorporated into the GP's flagship report on Moving Towards Climate Resilient Transport that was delivered at the Conference of Parties (COP) 21 in December 2015.
- The Project Management Division (PMD) staff of the LTA were trained to update sections of the completed Vulnerability Assessment and Climate Resilient Road Strategy. No targets were specified for this indicator.
- TA was provided to the LTA for developing an investment and maintenance strategy to enhance the climate resiliency of the road network.



Outcomes

The outputs described above were originally envisioned to measure the recipient's progress towards developing and adopting climate-resilient road policies, codes and practices in general, and through adopting the vulnerability Assessment and Climate Resilient Road strategy in particular.

- The Vulnerability Assessment and Climate Resilient Road Strategy was endorsed by the Cabinet Development Committee on August 17, 2017, as per the original target.
- The planning tool (which was derived from the Vulnerability Assessment and Climate Resilient Road Strategy) was used for informing the resilient design of six infrastructure investments in WCR, Cross-Island Road, Mali'oli'Bridge, Moamoa Ford, Nuusuatia Bridge and Aia Bridge - as per the revised target. The ICR (paragraph 29) notes that the size of drainage initially proposed by the design consultant for this project was increased to be consistent with the Vulnerability Assessment recommendation of using pipe culverts with a minimum of 900 millimeters of standard internal diameters, as per the revised target.
- The Vulnerability Assessment was used for prioritizing investments that led to selecting works to be upgraded under the second phase of this project as per the revised target.

Given that the revised targets demonstrated how the outputs of the vulnerability assessment were used for guiding outcomes, efficacy of this PDO is assessed as **substantial**.

Rating

Substantial

OBJECTIVE 2 REVISION 1

Revised Objective

To enhance local capacity to develop a more climate resilient road network.

Revised Rationale

No change. As above.

Revised Rating

Substantial

OVERALL EFFICACY

Rationale



The overall efficacy before restructuring was modest, given that the outcome under PDO1 was well short of the original target.

Overall Efficacy Rating
Modest

Primary Reason
Low achievement

OVERALL EFFICACY REVISION 1

Overall Efficacy Revision 1 Rationale

Efficacy after restructuring was assessed as substantial after project restructuring, as the revised outcomes were realized for the most part.

Overall Efficacy Revision 1 Rating

Substantial

5. Efficiency

Economic analysis. A cost-benefit analysis was conducted at appraisal for activities associated with rehabilitation of the WCR. These activities accounted for 91% of the appraisal estimate. The ICR does not provide information on the actual project cost at closing. Hence, there is no information on the scope/coverage of the ex post EIRR. The methodology entailed a comparison of "with" and "without" climate change adaptation measures. The "with" climate change adaptation measures scenario assumed upgrades to WCR (including improvements to enhance the climate resilience of WCR through raising the road pavement at select locations, sealing the shoulders of the road, and improving longitudinal and cross drainage). The "without" climate change adaptation measures scenario assumed the upgrades to WCR as part of normal maintenance activities, but excluding the climate change adaptation measures identified above. Traditional benefits of travel time saving and reduction of vehicle operating costs were not considered in this analysis. The quantified benefits were to come from reduction in maintenance cost due to climate change adaptation measures. The Net Present Value (NPV) at 3% discount rate at closure was 0.76 million, as compared to the NPV of US\$2.34 million at appraisal, using the same discount rate. The PAD (page 11) notes that a 3% discount rate was in line with the discount rate provided in the Pacific Study Series entitled, *Climate Profiling, A Risk-Based Approach*, developed by the Asian Development Bank (ADB, 2005). The ex post Economic Internal Rate of Return (EIRR) was 19% as compared to the ex ante EIRR of 30%. The ex post EIRR was lower due to the increase in costs of the road rehabilitation activities.

Administrative and operational issues. Project implementation started nearly a year after effectiveness for a combination of factors, including delays associated with jointly procuring the Project Management Company (PMC) for this project with that of another Bank-financed project (Enhanced Road Access Project) due to the low capacity in the country and limited competition in the market, and negotiations between the selected PMC and the Government that were stalled over several months over a Samoan tax issue (the team clarified that this issue was about interpretation of tax obligations by consultants and contractors under the relevant Samoan law. The government's confirmation that all contracts should be inclusive of all taxes helped in resolving the issue). This was exacerbated by the delays over which the project had no control, due to the restrictions



imposed in the wake of the COVID-19 pandemic. These factors resulted in the project closing 28 months behind schedule.

The design consultant's initial cost estimate for upgrading the WCR was significantly overestimated and required substantial revision. The initial cost estimate was almost three times higher than the estimated cost at appraisal. The ICR (paragraph 44) notes that the consultant's initial estimate made several assumptions and questionable hypothesis (such as 40% premium over local prices for international consultants and 25% preliminary and general allowance).

Implementation was further hampered due to factors, such as high staff turnover within the Land Transport Authority (LTA) Project Management Division (LTA had three Managers over 1.5 years since March 2015), slow progress of road design due to the debate between the government agencies on the road reserve boundaries of WCR, lack of effective communication between the LTA and the Ministry of Natural Resources and Environment on land acquisition issues, unclear responsibilities within the PMC and the LTA for managing the safeguards processes, and the PMC overcharging the project which led to ineligible expenditure (discussed in section 10).

The project scope was eventually reduced rather substantially from 23 km to 12.5 km. Finally, the government's decision to fully rehabilitate parts of the WCR road and switching WCR's surfacing from chip seal to asphalt, increased design and supervision costs.

In sum, given that the project financed a much reduced project scope with the available grant and there were administrative inefficiencies, efficiency is assessed as modest.

Efficiency Rating

Modest

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	30.00	91.00 <input type="checkbox"/> Not Applicable
ICR Estimate	✓	19.00	0 <input type="checkbox"/> Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

Under the original outcome targets. With high relevance of the PDO to the Government and Bank strategies, modest efficacy and efficiency, the overall rating is **Moderately Unsatisfactory (3)**.



Under the revised outcome targets. With high relevance of the PDO to the Government and Bank strategies, substantial efficacy, and modest efficiency, the overall rating is **Moderately Satisfactory (4)**.

A split rating is applied based on the disbursement shares of 12% before restructuring in February 2018 (US\$1.83 million was disbursed), and 88% after restructuring (total financing was US\$14.8 million). The overall outcome rating is **Moderately Satisfactory**, the weighted value is 4 (12%*3 + 88%*4 = 3.88).

a. Outcome Rating
Moderately Satisfactory

7. Risk to Development Outcome

Exposure to natural disasters. There is a substantial risk to the sustainability of investments, given that tropical cyclones and associated heavy rains are expected to be intense in future and 80% of the Samoa coastline is rated as sensitive to erosion, flooding and landslips. Given the increasing frequency and intensity of extreme weather and climate events, there is a substantial risk that the WCR upgraded through this project could be affected within its lifespan (ICR paragraph 66).

Technical risk. The project activities included road safety features such as sealing shoulders, installing signage and providing thermoplastic line marking, rumble strips and additional safety furniture. A post road safety audit conducted under the ongoing Emerging Road Access Project (ERAP) on WCR, indicated that some drains and driveway culverts are a high risk safety concern. To address this issue, the ERAP extended its closing date by six months from April 30, 2021, to October 29, 2021 to allow for repair of the critical drains and culverts on the WCR. There is a moderate risk to development outcome that these activities might not be completed on time.

Institutional risk. The project supported LTA to have maintenance strategy to enhance the climate resilience of its road network, as well as new methodologies, techniques and software, and the institutional capacity to plan and manage the road network more effectively. The ICR, however, does not discuss financing risks pertaining to operation and maintenance (O&M) of the road.

8. Assessment of Bank Performance

a. Quality-at-Entry

The design appropriately included both "hard infrastructure" activities (rehabilitating the WCR) and "soft infrastructure" activities aimed at the institutional strengthening of the Land Transport Authority (LTA) to manage the road network. This project was prepared based on the experiences with prior Bank-financed projects (discussed in section 3). Lessons incorporated at design included an assessment by an engineering consultant to assess flood risks and flood management options for ensuring that the physical investments incorporate natural hazard and climate risks, and involving communities early during implementation to avoid potential conflicts with community-held property and owners of free land (PAD, paragraph 27). The implementation arrangements were appropriate, with the LTA in charge of



implementing the project. The LTA had executed many Bank-funded road projects. A consulting firm was to support the LTA in day-to-day project management (PAD, paragraph 10).

Several risks were identified at appraisal, including moderate risks associated with uncertainties related to the engineering design, LTA's capacity to roll out the vulnerability assessment across Samoa, and possibility of delays given that temporary land acquisition could be required in some instances. With mitigation measures, the overall risk was rated as moderate at appraisal (PAD, page 10). The arrangements made at appraisal for safeguards and fiduciary compliance were appropriate (discussed in section 10).

There were minor shortcomings at Quality-at-Entry. **One**, the project overestimated the institutional capacity of the LTA, given that the project involved activities in several locations along WCR, which required greater resources. This contributed to delays during construction; and **two**, there were shortcomings in M&E design (discussed in section 9).

Quality-at-Entry Rating

Satisfactory

b. Quality of supervision

Twenty one supervision missions were conducted during project implementation. The ICR (paragraph 49) notes that for most of the implementation period, supervision mission were carried out quarterly (rather than semi-annually). Although there were three Task Team Leaders (TTLs) during the project lifetime of about eight years, the continuity of leadership was more or less maintained, as the incoming TTL was working as a Co-TTL with the outgoing TTL in the first occasion and the outgoing TTL/ Co- TTL continuing as TTL/Co TTL for the second phase of this project. The mid-term review (MTR) was held as scheduled in August 2017.

The government's decision to fully rehabilitate parts of the WCR and switching WCR's surfacing from chip seal to asphalt increased design and supervision costs. These factors eventually led to shrinking the project scope. Given the delays in the initial years of the project, the supervision team appropriately restructured the project, based on the recommendations of the MTR (including reducing the scope of project activities, and extending the closing date). This aided in completing the reduced scope of project activities. The team also made an attempt to improve the M&E indicators. The team appropriately declared ineligible expenditure, and the support provided by the team aided in fiduciary and safeguards compliance (discussed in section 10).

Quality of Supervision Rating

Satisfactory

Overall Bank Performance Rating

Satisfactory



9. M&E Design, Implementation, & Utilization

a. M&E Design

The Project Management Company (PMC) was in charge of M&E. There were several shortcomings in the M&E design. Several of the original PDO outcome indicators (the length of the sealed shoulders, number of drainages, and length of roads rehabilitated) were only measuring outputs. Likewise, the PDO 2 indicator - adoption of the vulnerability assessment - was not adequate as an outcome indicator.

All the original outcome indicators were replaced with new indicators, with the project first restructuring. The new key outcome indicator under PDO1- the number of km of road that were rehabilitated to climate resilience standards - was improved only marginally; it remained output-oriented and descriptive. The other key outcome indicator - the number of new projects which incorporated the recommendations of the vulnerability assessments - was appropriate for monitoring PDO 2. Targets were specified for activities added with the restructuring such as the length of coastal protection channels and length of vegetated coastal scour protection.

b. M&E Implementation

The ICR (paragraph 46) notes that PMC's support in terms of monitoring indicators was limited in the initial years. Hence, the responsibility for M&E was transferred to the Transport and Infrastructure Sector Coordination Division (TISCD). However, there were delays in submission of semi-annual project reports by TISCD, as the outgoing PMC did not prepare the semi-annual reports for the period of January 1, 2019 to June 30, 2019. This contributed to difficulties in monitoring the actual project status during this time. The ICR (paragraph 52) notes that while TISCD did submit the report using data provided by the LTA in a new template developed for the project, the handover from the PMC to TISCD, meant that there were some gaps in the project history.

There were issues with quality control in reporting. The ICR (paragraph 53) notes that while the target value for the first PDO indicator was changed from 12.5 km in November 2019 to 10.64 km in May 2020, the value was revised without a formal project restructuring. The ICR notes there was lack of clear reporting on the sites by PMC.

c. M&E Utilization

The ICR (paragraph 54) notes that the target value for the first PDO indicator (improved climate resilience of the WCR and two intermediate indicators (roads rehabilitated and length of sealed shoulders) could have been revised through the second restructuring in May 2020.

In sum, M&E is assessed as **modest**.

M&E Quality Rating

Modest



10. Other Issues

a. Safeguards

The project was classified as an Environmental Category B (partial assessment) project. Two safeguard policies were triggered at appraisal: Environmental Assessment (OP/BP 4.01) and Involuntary Resettlement (OB/BP 4.12) (PAD, page vii).

Environmental Assessment. The potential adverse environmental impacts such as increase in dust, noise and sediment runoff during construction of the WCR road, were expected during the construction phase. An Environmental Code of Practice (ECOP), based on Samoa's Code of Environmental Practice (COEP), was prepared and publicly-disclosed at appraisal (PAD, paragraph 55). The ICR (paragraph 56) notes that the Environment and Social Management Plan (ESMP) was prepared and publicly-disclosed during implementation.

The ICR (paragraph 57) notes that environmental safeguards compliance was overall satisfactory, with environmental hazards and risks well-managed at construction zones. Dust control during the dry season was mitigated by diligent use of spray truck. Barriers were installed at school access points to prevent children from traversing into construction zones. Fences were also installed around all voids/excavations, at drainage crossings and other hazards along the road.

Involuntary Resettlement. The PAD (paragraph 57) reported that permanent land acquisition was not expected as most physical works activities were to take place within the existing road reserve. However, easements for drainage works could be required for improving drainage. A Land Acquisition and Resettlement Framework (LARF) was prepared and publicly-disclosed at appraisal (PAD, paragraph 58).

The ICR (paragraph 58) notes that compensation for seven persons by the WCR for loss of land and non-land assets including crops, was paid prior to commencement of works. Compensation was paid to several project-affected persons on drainage easements for WCR. A Grievance and Complaint Logging System (GCLS) was developed and used during implementation. Complaints relating to boundaries of the road reserve and compensation rates for trees and crops were addressed.

b. Fiduciary Compliance

Financial management. An assessment of financial management was conducted at appraisal. The assessment concluded that the financial arrangements were adequate, subject to appointment of an appropriated qualified consulting firm to manage the financial requirements of the project (PAD, page 28).

There was one financial issue during implementation about the excessive burn rate of the Project Management Company which led to some ineligible expenses (ICR, paragraph 61). The team clarified that work performed and invoices revealed misapplication of the Time and Material contract. While invoices for the contract as of September 2016 were submitted with accompanying timesheets and invoiced charges were based on the timesheets, no steps were taken to address some that were submitted without timesheets and charged at the maximum monthly amount rather than for the actual time worked. Following investigations of contract invoices, approximately US\$19,300 was declared as



ineligible expenditure on November 14, 2016. This issue was resolved and since then, there were no financial issues. The team clarified that the audits were unqualified.

Procurement. A procurement assessment was conducted at appraisal. The PAD (paragraph 52) notes that Samoa has good internal controls on procurement and the Government and LTA were familiar with Bank's processes and procurement guidelines.

The ICR (paragraph 59) notes that the decision to jointly procure the PMC for this project and another ongoing Bank project contributed to delays in the initial years. This issue was rectified, and procurement was assessed as moderately satisfactory until project closure. The ICR does not report any case of mis procurement.

c. Unintended impacts (Positive or Negative)

d. Other

11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Moderately Satisfactory	Moderately Satisfactory	
Bank Performance	Satisfactory	Satisfactory	
Quality of M&E	Modest	Modest	
Quality of ICR	---	Substantial	

12. Lessons

The ICR draws the following main lessons from the experience of implementing this project, with some adaptation of language.

1. Low capacity environments may require longer implementation periods. The implementation timeline of five years for this project proved to be unrealistic and the closing date was extended by a cumulative 28 months. The lesson is that the standard five-year implementation period may not be sufficient for small island states with low implementation capacity.

2. Identification of Right-of-way before commencing design and design optimization based on visual inspection can help in reducing land acquisition delays. Significant delays were experienced in the initial years of this project, due to the uncertainty over the extent of the legal right of way for WCR.



3. Remote supervision of civil works can be done under an emergency like the COVID-19; however this cannot permanently replace actual physical supervision. In this project the impact to disruptions caused by COVID -19 was mitigated by fortnightly meetings with the Land Transport Authority. Nevertheless to properly supervise the technical aspects of such projects, it is important for engineers and safeguards specialists to visit the actual project road regularly.

13. Assessment Recommended?

No

14. Comments on Quality of ICR

The ICR is clear and concise. The theory of change provided in the ICR clearly shows the causal links between project activities, their outputs and outcomes and explicitly states the assumptions under which these outcomes are likely to be realized. The ICR candidly discusses the issues with monitoring and evaluation. The ICR is internally consistent, with logical linking and integration of the various parts of the report. The ICR provides relevant information on the continuity of leadership and quality of audits. The lessons from the experience of implementing this project respond to the specific experiences of this project. Given that the project scope was reduced rather significantly through the first restructuring, the ICR appropriately conducts a split rating of objectives.

One shortcoming of the ICR is that it did not include the actual cost of project components.

a. Quality of ICR Rating Substantial